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BROWN AND CALDWELL
Environmental Engineering & Consulting

Ms. Tracey T. Piccone, P.E.
South Florida Water Management District
3301 Gun Club Road
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60/21853

Subject: C-E024, Basin Specific Feasibility Studies
Peer Review of Preliminary Alternatives for the Feeder Canal and L-28 Basins

Dear Ms. Piccone:

Brown and Caldwell and members of our subconsultant team have reviewed the South Florida Water Management District's (District) preliminary alternative combinations of water quality solutions for the Feeder Canal Basin and the L-28 Basin. These alternatives were described in two District documents entitled *"Preliminary Alternative Combinations for the Feeder Canal Basin"* and *"Preliminary Alternative Combinations for the L-28 Basin"*, both dated November 21, 2001. Additional information was gained from presentations of the preliminary alternatives by District staff at a workshop with project stakeholders at the District's Clewiston Field Station on December 11, 2001. The District's preliminary alternatives in these two basins are very conceptual because prior work in these basins has been less extensive than in the Everglades Agricultural Area (EAA) basins to the east. However, we have several comments and suggestions for the District to consider before finalizing the alternatives. These include the following:

<u>Feeder Canal Basin</u>

1. Because of the potentially larger contribution from Best Management Practices (BMPs) in agricultural areas of this basin, it may be more appropriate to consider 10, 20, 30 and 40 percent reductions in P concentrations due to source controls.

2. The flow diversion component in Alternative 1 is not detailed in the alternatives document. However, from the presentation at the workshop, it is our understanding that the District's intent for the flow diversion component is to construct stormwater retention areas to equalize peak flows and allow water to sheet flow from the L-28 Interceptor Canal south and west into the Big Cypress National Preserve. In all likelihood this, will require degradation of at least some of the levee on the west side of the L-28 Interceptor Canal. This is the same concept proposed for the Big Cypress/L-28 Interceptor Modifications Project to be constructed as part of the Comprehensive Everglades Restoration Plan

(CERP) by June 2015. By constructing this component as part of the improvements needed to meet Everglades Forever Act requirements, the District would be achieving integration with CERP and could potentially realize considerable cost savings as a result. However, showing both the flow diversion component and the CERP component in Alternative 1 is probably redundant. If our understanding of the District's flow diversion component is correct, the only difference between Alternatives 1 and 3 is the timing of the diversion and the source of funding to pay for it.

3. The description of the flow diversion component of Alternative 1 states that … *"It is assumed that the diversion of flow to the Big Cypress National Preserve will achieve a 100% reduction in flows to the S-190 and therefore total loads of phosphorus to WC3A."* This assumption would seem to conflict with the concept of converting the S-190 into a pumping station and pushing water into the L-28 Interceptor Canal for diversion into the Big Cypress National Preserve as proposed in the CERP project for this basin. It would also seem to conflict with the information presented by District staff at the December 11 workshop regarding the concept for the flow diversion component of Alternative 1. Some clarification on this issue would be helpful.

4. Stakeholders familiar with Big Cypress National Preserve indicated that sheet flow of 100% of the L-28 basin flows into the Preserve may not be possible due to topographic limitations.

5. The STA component of Alternative 2 does not indicate what type of natural treatment technology may be most appropriate for this basin. As part of our review, the Brown and Caldwell team ran the Dynamic Model for Stormwater Treatment Areas (DMSTA) on stormwater runoff from the Feeder Canal Basin using emergent STA, SAV and PSTA treatment technologies. While preliminary, the results of the modeling showed that the SAV technology was able to achieve low effluent P concentrations using less land than either of the other two technologies individually. However, it is likely that the STA component of Alternative 2 will involve some combination of these technologies to realize the maximum P removal with the least amount of land being required. The STA component of Alternative 2 should probably reflect this.

<u>L-28 Basin</u>

1. Because of the potentially larger contribution from BMPs in agricultural areas of this basin, it may be more appropriate to consider 10, 20, 30 and 40 percent reductions in P concentrations due to source controls.

2. The description of Alternative 1 does not provide any explanation of what flows will be treated by the STA component. Given the Critical Project component related to the Seminole Reservation Water Conservation Plan and the CERP

component involving an STA on the Miccosukee Reservation, it is not clear what flows will remain and how those flows can be collected and routed to a STA without extensive infrastructure improvements. While the concept of treating runoff from the L-28 Basin using natural treatment technology is sound, arriving at a plan for its implementation may be difficult and costly. We would propose that the District look into the possibility of integrating the STA component of Alternative 1 with elements of the projects proposed for the Seminole and/or Miccosukee Reservations to simplify the improvements required.

3. The Introduction states that the Miccosukee Water Management Plan (MWMA) will be completed in 2010. In the Alternative summary on page 6 as well as throughout the Alternative detail descriptions, the MWMA is described as being completed in 2015.

Summary

We hope these comments will be of benefit to the District in finalizing the alternatives to be evaluated by the Brown and Caldwell team in the Basin Specific Feasibility Studies. We will be glad to meet with you and other District staff at your convenience to discuss them. In the meantime, if you have any questions, please do not hesitate to contact me.

Sincerely,

BROWN AND CALDWELL

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Senior Project Manager

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